Abstract of the Disclosure

A method and apparatus for evaluating and calibrating a signaling system is described. Evaluation is accomplished using the same circuits actually involved in normal operation of the signaling system. Capability for *in-situ* testing of a signaling system is provided, and information may be obtained from the actual perspective of a receive circuit in the system. A pattern of test information is generated in a transmit circuit of the system and is transmitted to a receive circuit. A similar pattern of information is generated in the receive circuit and used as a reference. The receive circuit compares the patterns. Any differences between the patterns are observable. Preferably, the patterns are repeating patterns that allow many iterations of testing to be performed. In one embodiment, a linear feedback shift register (LFSR) is implemented to produce patterns. Information obtained from testing may be used to assess the effects of various system parameters, including but not limited to output current, crosstalk cancellation coefficients, and self-equalization coefficients, and system parameters may be adjusted to optimize system performance. An embodiment of the invention may be practiced with various types of signaling systems, including those with single-ended signals and those with differential signals. An embodiment of the invention may be applied to systems communicating a single bit of information on a single conductor at a given time and to systems communicating multiple bits of information on a single conductor simultaneously.